

**DRAFT**  
**Outline**  
**WRAP Emissions Trading Program Information System Analysis**

**I. Introduction/Background/Objectives**

**II. Technical Architecture**

A. Requirements

1. *Security/User Authentication* - The security of the system will be critical for users to trust that their data is safe and that the information presented is accurate. This section will describe the basic requirements for maintaining a safe and secure system to ensure data integrity.
2. *Access* - The level of access that different account types (administrator, government, general, compliance, retirement, etc..) will have to the system.
3. *Physical Data Security* - The level of physical data security is determined by the measures to protect the datacenter (specialized facility that houses Web sites) from theft, natural disaster, manmade catastrophes, and accidental damage (e.g. from electrical surges, extreme temperatures, spilled coffee). This section will also discuss suggested strategies for redundancy, data backups, and catastrophe recovery plans.
4. *Maintainability* - This section will describe the level of maintenance that the system will require and the need to develop the system based upon well-understand technical standards.
5. *Data Volume* - The amount of data that will flow through the system will have major implications for the database design and data flow. This section will describe the expected volume of data and the consequential issues for the system design.
6. *Use Frequency and Volume* - The frequency of use that the system will be designed to accommodate.
7. *Data Management/Loading/Transfer* - The potential mechanisms for loading data into the system and transferring data out of the system.
8. *Notifications Requirements* - This section will describe the notification and communication requirements of the system. This will include email trade confirmations, transaction archival recording, and administrator communications.

9. *Management of Public vs. Private Data* - The different levels of public availability of data for each account type. It will also describe the special privacy needs of the tribes.
  10. *Connections with Other Data Systems* - This section will describe the interface between the system and any other data management or tracking systems.
  11. *Data Quality* - This section will describe the required level of data integrity and measures to insure a high level of data quality.
- B. Platform Selection Criteria - The requirements for selecting the baseline Web server, application server, database system, and client interface medium (browser).
1. Data Volume
  2. Performance
  3. Cost
  4. Maintainability
  5. Connectivity
  6. Efficiency
  7. Availability

### III. Functional Areas

- A. Source Inventory/Reps/Owners - This section will describe the need to maintain basic information about existing and new facilities and units participating in the program. It will also describe the regulatory requirements to assign and maintain representatives and owners of facilities.
- B. User Management - This section will describe the functionality to manage user access to the system. Likely functionality includes the ability to create, edit, delete, lock, and unlock users.
- C. Account Management (Government/General/Compliance/Retirement) - This section will describe the functionality to manage information related to emission sources and market participants. Likely functionality includes the ability to create, edit, suspend trading privileges, and delete accounts.
- D. Allowance Allocations (Initial/ongoing) - This section will describe the functionality to manage the allocation of allowances into specific accounts by the administrator. Likely functionality includes the ability to allocate new allowances, redistribute allowances, and interact with any external tracking system.
- E. Allowance Trading - This section will describe the functionality to allow account holders to trade allowances. Likely functionality includes the ability to trade

allowances, verify transactions, and view reports of transactions (administrator).

F. True-up/Compliance - This section will describe the functionality that will handle true-up and compliance verification.

G. Emissions Tracking and Emissions Reporting

1. *Tracking Information* - This section will describe the need to properly identify monitoring and reporting obligations of each facility participating in the program and the receipt of required information.

2. *Monitoring and Emissions Information for Part 75 Units* - This section will describe the general requirements for receiving and sharing information from EPA information systems about Part 75 affected sources who are reporting monitoring and emissions data directly to EPA. The assumption is that redundant submission of these data would not be required.

3. *Monitoring Information for Non-Part 75 Units* - This section will describe the general requirements and process for submitting, processing and storing information on selected monitoring methodologies from each non-Part 75 source.

4. *Emissions Data for non-Part 75 Units* - This section will describe the process for submitting, processing and storing hourly emissions data from each non-Part 75 source which is submitting emissions data.

5. *Quality Assurance of Emissions Data* - This section will describe the needs relating to automated verification of emissions data to identify errors, omissions, anomalies, and inconsistencies and thereby assure the quality of the emissions data for non-Part 75 reporters.

H. Program Assessment and Analysis - This section will describe the data and reports required to evaluate the performance results and environmental impact of the program.

I. Public Information Needs and Requirements - This section will discuss the level of requirements for public disclosure and access. This will include the information needs of other participants and the general public.

#### **IV. Preliminary Design Analysis**

A. Use Case Analysis - Scenarios will be developed for each user and account type. These scenarios will outline the process steps for each user and account type to perform various actions, from creating new accounts to transferring allowances.

The general user types are listed below:

1. Administrative Users (TSA, State users)
  2. Industry Users
  3. General Account Holders
  4. Public
- B. Data Flow Diagrams - Data flow diagrams will be developed to explain the movement of data between the various components of the system. These data flow diagrams will focus on data *flow* rather than data *process*.
- C. Logical Database Design - Based upon the functionality envisioned and the use case analysis, we may, depending upon budget status and feasibility, attempt a logical database design.

## V. Design and Development Approach

- A. Timing/Schedule - An estimate on schedule requirements relative to current technology and best practice development methods will be included.
- B. Costs Factors - An analysis of individual factors that will likely drive the cost of the ultimately implemented system, such as data volume, security, and emissions tracking model.
- C. Recommended Implementation Methodology - This section will describe a suggested step-by-step process for implementing the system design.

**VI. TSA Responsibilities and Performance Criteria** - This section will include explicit responsibilities of the TSA and suggested performance metrics.

## Appendices

1. References
2. Glossary
3. Design and Development Standards - The recommended design and development standards will be explicitly referenced for each of the following:
  - a. Database Standards
  - b. Security Standards
  - c. User Interface Standards
  - d. Data Exchange Standards